

PRESS RELEASE

Dr. Hugo Beltrami of StFX's NSERC-CREATE Program awarded a Canada Research Chair (Tier 1) in Climate Dynamics.

StFX's Environmental Sciences faculty member Dr. Hugo has been awarded a Canada Research Chair (CRC Tier 1) in Climate Dynamics. The seven-year renewable appointment includes a \$1.4M research award and is accompanied by an additional award from the Canadian Foundation for Innovation (CFI) through its John R. Evans Leaders Fund. These funds will be put towards the purchase of a \$575k high performance computer cluster which will perform simulations of climate related processes to support Dr. Beltrami's team research.

Dr. Beltrami's research program will address fundamental scientific challenges and will explore innovative research avenues in all aspects of climate sciences, but more specifically related to the overall characterization of the energy transfer between the lower atmosphere and the first few hundred meters of the Earth's surface; the interface where we live. The results and expertise developed throughout the projects of the research program will also support multidisciplinary collaborations related to mitigation, adaptation, and resilience building in the face of climate change. The overall goals of this CRC program are:

- Contribute robust estimates of continental energy storage to ascertain the long-term energy balance of the Earth and to contribute to the understanding of climatic variability in its natural state;
- Develop advanced and original methods of analysis and modelling of the dynamics of processes involved in energy transfer at the atmosphere-ground interface;
- Develop and expand regional climate modeling methodologies for cross-disciplinary collaborations and the sharing of expertise, to address multifaceted societal challenges.

The timing of the award is important given that Climate Change is now recognized in the science and policy communities as a risk that needs to be addressed through adaptation as well as through mitigation. The impacts of a changing climate are already evident in every region of the world. These impacts will be exacerbated in the future with significant implications for communities, industry, infrastructure and ecosystems. This has been

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recognized recently in Paris by 186 countries expressing their intention to take measures to limit the warming of the planet to 2°C. Because this issue branches across many sectors and disciplines, an interdisciplinary and integrative approach is necessary to formulate measures to minimize adversities. In addition, the climate emergency we face today requires that climate scientists develop models and strategies for solving practical problems. Specifically, there is a need to develop operational climate prediction tools specific to one or more problems, to ensure climate researchers can get reliable information as a basis to provide sound policy advice on mitigation and prevention strategies.

The CRC activities will also help to accelerate and enhance Environmental and Climate Sciences research program at StFX and the region. The establishment of a Chair places our Environmental and Climate Sciences research teams in a advantageous position to continue securing funding from national and international sources, and to further increase StFX's research and academic capacity. The Chair's program will also strengthen the research training environment, attract more graduate and undergraduate students, and further develop internal and inter-institutional multidisciplinary collaborations. The CRC and the Environmental and Climate Sciences groups' research performance is a foundation for enhancing the overall research culture at StFX, providing excellent and diverse HQP (BSc, MSc, PhD) training opportunities in the short and long term, while enhancing the unique undergraduate exposure to research early in the students' careers.

About the Chairholder:

Dr. Hugo Beltrami has been at StFX since 1995 and he is a full professor associated with the Climate & Atmospheric Sciences Institute, the Environmental Sciences Program, and the Department of Earth Sciences. He is an internationally-recognized expert in the area of Borehole Climatology and considered a foremost authority in the field of continental energy and climate of the past from geothermal data. Dr. Beltrami's research interests and approach are multidisciplinary and extend from the classical data collection for heat flow and paleoclimate research as well as physically based applications, to modelling the processes involved in energy transfers at boundary between the air and the shallow underground.

About the Canada Research Chairs Program:

Recipients of [Canada Research Chairs \(Tier 1\)](#) awards "must be outstanding and innovative world-class researchers whose accomplishments have made a major impact in their fields; be recognized internationally as leaders in their fields; have superior records of attracting and supervising graduate students and postdoctoral fellows and, as chairholders, be expected to attract, develop and retain excellent trainees, students and future researchers; and be proposing an original, innovative research program of the highest quality".

Related Links:

[Dr. Hugo Beltrami faculty page](#)

[Climate & Atmospheric Sciences Institute](#)

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